

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶: C08F 4/69, 10/02	A1	(11) International Publication Number: WO 99/40126 (43) International Publication Date: 12 August 1999 (12.08.99)
(21) International Application Number: PCT/NO99/00043 (22) International Filing Date: 9 February 1999 (09.02.99) (30) Priority Data: 19980552 9 February 1998 (09.02.98) NO (71) Applicant (for all designated States except US): BOREALIS A/S [DK/DK]; Lyngby Hovedgade 96, DK-2800 Lyngby (DK). (72) Inventors; and (75) Inventors/Applicants (for US only): FOLLESTAD, Arild [NO/NO]; Damstien 10, N-3960 Stathelle (NO). ALMQUIST, Vidar [NO/NO]; Raskenlundveien 49, N-3928 Porsgrunn (NO). PALMQVIST, Ulf [SE/SE]; Västergårdsvägen 19, S-444 40 Stenungsund (SE). HOKKANEN, Harri [FI/FI]; Ketokiventie 3 as. 5, FIN-00710 Helsinki (FI). (74) Agent: TANDBERGS PATENTKONTOR AS; Boks 7085, N-0306 Oslo (NO).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
(54) Title: A CATALYST FOR THE (CO)POLYMERISATION OF ETHYLENE AND A METHOD FOR THE PREPARATION THEREOF (57) Abstract <p>A particulate, modified chromium oxide catalyst for the polymerisation of ethylene or ethylene with α-olefins, comprising: a) a chromium-oxide catalyst, b) a transition metal compound, and c) a catalyst activator. A method for the preparation of the catalyst comprises the steps of: a) subjecting a chromium oxide catalyst precursor, which comprises a chromium oxide compound combined with an inorganic support, to a temperature in the range of from 400 to 950 °C under oxidising conditions, and b) impregnating the obtained chromium catalyst with a catalyst activator and with a transition metal compound which comprises at least one cyclopentadienylic ring bonded to said transition metal and at least ligand selected from the group comprising alkoxy, amido and hydrocarbyl radicals, halogen and hybide bonded to said transition metal, which cyclopentadienylic ring may contain hetero atoms, be unsubstituted or substituted, be bonded to said transition metal through a bridge, and optionally annealed to other substituted or unsubstituted ring structures, and if two cyclopentadienyl rings are present they may be bonded to each other through a bridge, and c) subjecting the thus obtained particulate catalyst to drying conditions. This catalyst is suitable for producing polyethylenes under conditions of continuous feeding of all reactants.</p>		